WHAT IS CLAIMED IS:

1. An optical scanner comprising:

a deflecting unit that deflects optical beams emitted from a light source at a constant angular velocity; and

a scanning imaging lens that condenses the optical beams deflected on a surface to be scanned, the scanning imaging lens including at a first lens that is arranged closer to the deflection unit and a second lens that is arranged closer to the surface to be scanned, wherein

the first lens is formed by resin molding, and has a positive refracting power in the horizontal scanning direction, with zero or close to zero refracting power in the vertical scanning direction, and has a function of correcting a constant velocity characteristic in the optical scanning,

the second lens has a weak refracting power in the horizontal scanning direction and a strong positive refracting power in the vertical scanning direction, and

when it is assumed that a deflection angle of optical beams deflected by the deflection unit is θ, an image height at the deflection angle θ of the light spot is $H(\theta)$, and an ideal image height at the deflection angle θ of the light spot is $k\theta$, designating k as a constant,

the linearity Lin of the scanning imaging lens defined by

$$Lin = |[\{(dH(\theta)/d\theta)/k\} - 1]| \times 100\ (\%)$$

satisfies a condition

$$2.0 < Lin < 10.0\ (\%).$$

2. The optical scanner according to claim 1, further comprising a modulation-variable mechanism that corrects the linearity Lin by changing the timing of a modulation signal of the light source.

3. The optical scanner according to claim 2, wherein

the modulation-variable mechanism performs phase shift of a pixel clock based on a high-frequency clock higher than the pixel clock.

4. The optical scanner according to claim 1, wherein

the light source emits a plurality of optical beams, and

the deflection unit deflects the optical beams in such a manner that all the optical beams deflected from the same deflection reflecting surface of the deflection unit cross each other in the horizontal scanning direction in the vicinity of the deflection surface.

5. The optical scanner according to claim 1, wherein

a lens thickness X_1 in the direction of optical axis on the optical axis, a thickness X_{1e} of the thinnest portion, a lens height T_1 of only an optical surface in the vertical scanning direction, and a lens length L_1 of only the optical surface in the horizontal scanning direction of the first lens satisfy the following conditions, together with the effective write width W_0 on the surface to be scanned

$$0.2 < |X_{1e} / X_1| < 0.4$$

$$0.4 < |T_1 / X_1| < 0.65$$

$0.3 < |L_1 / W_0| < 0.5$.

6. The optical scanner according to claim 1, wherein

a lens thickness X_1 in the direction of optical axis on the optical axis, a thickness X_{1e} of the thinnest portion, a lens height T_1 of only an optical surface in the vertical scanning direction, and a lens length L_1 of only the optical surface in the horizontal scanning direction of the second lens satisfy following conditions, together with the effective write width W_0 on the surface to be scanned

$0.5 < |X_{2e} / X_2| < 0.8$

$0.2 < |X_2 / T_2| < 0.5$

$0.8 < |L_2 / W_0| < 0.95$.

7. The optical scanner according to claim 1, wherein

a lateral magnification β_0 in the vertical scanning direction on the optical axis between the deflection reflecting surface and the surface to be scanned, and a lateral magnification β_h in the vertical scanning direction at an optional image height h satisfy a condition

$0.9 < |\beta_h / \beta_0| < 1.1$.

8. The optical scanner according to claim 1, wherein

the lateral magnification β_0 in the vertical scanning direction on the optical axis between the deflection reflecting surface and the surface to be scanned satisfies a condition

$0.2 < |\beta_0| < 0.6$.

9. An image forming apparatus comprising an optical scanner that optically scans a photosensitive medium, the optical scanner including

a deflecting unit that deflects optical beams emitted from a light source at a constant angular velocity; and

a scanning imaging lens that condenses the optical beams deflected on a surface to be scanned, the scanning imaging lens including at a first lens that is arranged closer to the deflection unit and a second lens that is arranged closer to the surface to be scanned, wherein

the first lens is formed by resin molding, and has a positive refracting power in the horizontal scanning direction, with zero or close to zero refracting power in the vertical scanning direction, and has a function of correcting a constant velocity characteristic in the optical scanning,

the second lens has a weak refracting power in the horizontal scanning direction and a strong positive refracting power in the vertical scanning direction, and

when it is assumed that a deflection angle of optical beams deflected by the deflection unit is θ, an image height at the deflection angle θ of the light spot is $H(\theta)$, and an ideal image height at the deflection angle θ of the light spot is $k\theta$, designating k as a constant,

the linearity Lin of the scanning imaging lens defined by

$$Lin = |[\{(dH(\theta)/d\theta)/k\} - 1]| \times 100\ (\%)$$

satisfies a condition

$2.0 < Lin < 10.0$ (%).

10. The image forming apparatus according to claim 9, wherein the photosensitive medium is made of a photoconductive photosensitive material and provided in plurality along a feed path of a toner image transfer medium.